CV of Alireza Malehmir

Research Director of the Smart Exploration Research Center (SERC); Dean, Dept. of Earth Sciences (since 07/2026)**; Professor of applied geophysics** (since 03/2016). Website; LinkedIn; Researchgate; Twitter

University education:

BSc (2000) and MSc (2002); Polytechnic of Tehran in Mining Engineering-Exploration. **PhD (2007)**: Solid Earth Physics, Uppsala University, Sweden.

1. Postdoctoral experience:

Research Fellow (2008), Geological Survey of Canada (GSC), Ottawa-Canada.

2. Docent-rehabilitation and professorship:

Docent (2011) title by the Faculty of Science and Technology, Uppsala University-Sweden.
Promoted to professor (2016) of applied geophysics by vice-chancellor of Uppsala University-Sweden.

3. Former employment history:

10/08-10/12; **Assistant professor**, Uppsala University, Dept. of Earth Sciences; 02/08-10/08; **Research Fellow** at the Geological Survey of Canada, Ottawa-Canada.

4. Prizes, honours, awards:

TLE Geophysics Bright Spot *mention* for articles published in Geophysics (2009, 2012, 2013, 2018 and 2021); **Visiting Research Fellow** *Scholarship,* 2008: by the Geological Survey of Canada (GSC) and Natural Science and Engineering Research Council of Canada (NSERC); **Educational Award** for the academic year of 2007: by the Society of Exploration Geophysicists (SEG) Foundation, subject to maintenance of a scholastic record and courses of study satisfactory to the SEG Scholarship Committee; Main author of *one of the* **30 top paper presentations of the SEG Annual Meeting 2013,** Houston, USA; *co-author of* (*see* Krawzcyk et al.) *one of the* **four best papers of the Near Surface Geoscience 2013,** Bochum, Germany; *co-author of* (*see Lähivaara* et al.) *one of the* **four best papers of the Near Surface Geoscience 2017,** Malmö, Sweden; **SEG 2020** Distinguished Achievement Award for **Smart Exploration** project; SEG 2019 and 2020 **most improved and best student chapter awards**, respectively (founded and acting as an adviser); Uppsala University **Attractive Innovation Award for SeisMove®** (May 2024); **EAGE Conard Schlumberger Award** (June 2024); Uppsala University **Innovation Prize Hjärnäpplet** (October 2024). Member of UU-TEKNAT **Collaboration Review Committee** (Sept. 2025); Member/vice-chair of UU-Teknat **Docent promotion committee** (2021-2026).

5. Doctoral supervision/co-supervision:

Supervised (principal): **Saeid Cheraghi**, Seismic investigations in the Brunswick No. 6 mining area, Canada (March 2013); **Magnus Andersson**, 3D structure and emplacement of the Alnö alkaline and carbonatite complex, Sweden (May 2015). **Shunguo Wang**, Multiple geophysical methods (Sept. 2017); **Suman Mehta**, Boat-towed RMT modeling/inversion (Oct. 2017); **Bojan Brodic**, multicomponent seismics landstreamer (Feb. 2018); **Silvia Salas-Romero**, Geophysical and property measurements of quick clays (March 2019); **Georgiana Maries**, Near-surface and hardrock seismics (June 2020, awarded Bjurzons premium prize); **Sebastian Buntin**, Seismic structures of the Svecofennian lithosphere (Dec. 2021); **George Donoso,** Hardrock seismics (Sept. 2022); **Magdalena Markovic**, 2D/3D and deep-learning hardrock seismics (Nov. 2022, awarded Bjurzons premium prize); **Tatiana Pertuz**, Hardrock and ultrahigh resolution seismics (Feb. 2024); **Samuel Zappalà**, Dual-element onshore seismic recording and imaging (April 2025). **Lea Gyger**, DAS and broadband seismics (June 2026); **Kristina Kučinskaite**, Energy storage and near-surface seismics (Dec. 2026).
Supervising (principal): **Emmanouil Konstantinidis**, energy storage seismics (plan 2027); **Jolanta Putnaitė**, energy storage and hardrock seismics (plan 2027); **Arianna Koufopoulou**, lithospheric footprints of critical raw materials (plan 2028); **Viktor Stender**, Innovative seismic imaging of mine tailings (plan 2028); **Florian Velter**, Sparse nodal 3D, and downhole DAS (plan 2029).
Co-supervising/supervised: **Sadegh Karimpouli** (awarded Sept. 2013, Polytechnic of Tehran); **Emil Lundberg** (awarded Jan. 2014, UU), **Fatemeh Sharifi Brojerdi** (awarded June 2015, UU); **Omid Ahmadi** (awarded Sept. 2015, UU); **Peter Hedin** (awarded Oct. 2015, UU); **Harbe Muhamad** (awarded March 2017).

6. Post-doc/researcher adviser:

Joachim Place, hardrock seismics (2013-2016); **Emil Lundberg**, urban and near-surface seismics (2014-2016); **Mahdieh Dehghannejad,** urban and hardrock seismics (2014-2016); **Omid Ahmadi**, hardrock seismic modeling (2015-2016); **Magnus Andersson,** planning of a crustal seismic profile (2016-2017); **Hannes Mattsson,** petrological studies within StartGeoDelineation (2017-2018); **Peter Holmes**, project/innovation

manager of Smart Exploration (2018-2019); **Alba Gil de la Iglesia,** hardrock seismics (2018-2021); **Bojan Brodic**, seismic solutions (2018-2022); **Yinshuai Ding,** hardrock seismics (2020-2022); **Myrto Papadopoulou,** near-surface seismic applications (2021-2025); **Michael Westgate**, Geological carbon storage (2022-2025); **Grzegorz Paletko,** Instrumentation (2022-2025); **Magdalena Markovic**, Hardrock seismics (2023-2025); **Liuqing Yang**, Machine-learning solutions (2024-2026); **Erik Ogenhall**, SERC coordinator (2025). **Samuel Zappalà**, Reflection seismic imaging and modeling (Nov 2025). **Neethu Sasikumar**, Integrated DAS system for mineral exploration (March 2026).

7. MSc-BSc project supervision:

J. Launer (2010); **S. Akhtar** (2011); **H. Shahrokhi** (2012); **M.U. Saleem** (2012); **P. Ahmadi** (2013); **F. Afsar** (2013); **S. Andersson** (2015); **V. Hobson** (2019); **P. Johansson** (2015); **J. Fridlund** (2016); **E.Y. Wondimu** (2017); **L. Fengyi** (2017); **A. Donczew** (2019); **M. Abbasian** (2020); **E.D. Alofe** (2021); **Z. Mu** (2022); **M.H. Zeru** (2024); **S.M. Ahmed** (2024); **H. Khan** (2024); **F.R.Tesfamikael** (2024); **S. Sykiotis** (2025); **E. Elfakharany** (2026); **T. Lyrberg** (2026).

8. National and international assignments:

Ph.D thesis examiner/committee member: **Curtin University, 02/09:** by *C. Harrison* entitled "Feasibility of rock characterization for mineral exploration using seismic data"*;* **Curtin University, 05/11:** by *Y. Al Jabri* entitled "Land seismic repeatability predication from near surface investigations at Naylor Field, Otway"*;* **Uppsala University, 02/13:** by *F. Zhang* entitled "Quantifying the seismic response of underground structures via seismic full waveform inversion"*;* **The Wits. Uni., 06/13:** by *M. Manzi* entitled "Application of 3D seismic analysis techniques to evaluate ore resources on Kloof, South Deeps and Driefontein gold mines, Witwatersrand Basin, South Africa". **Curtin University, 03/14:** by *K. Tertyshnikov* entitled "Seismic imaging in hardrock environments". **IG PAS–Poland, 08/17:** by *A. Gorszczyk* entitled "Application of discrete curvelet transform in enhanced seismic imaging and accurate velocity model building". **TU Delft, 09/17:** by *B. Boullenger* entitled "Controlled-source seismic reflection interferometry"*, Examiner.* **Curtin University, 09/17:** by *D.T. Kieu* entitled "Inversion of multiple geophysical data using petrophysical constraints; **Curtin University, 11/21:** by A. Matos de Souza entitled "Seismic Signature of Gold Mineralisation from Rock Physics, Petrology Characterisation and Seismic Modeling": **University of Copenhagen, 08/22:** by Mads Lorentzen entitled "Applying supervised learning methods to geophysical data from the Lower Cretaceous succession in the Danish North Sea"; **The Wits. Uni., 09/23**, by Moyagabo Kenneth Rapetsoa entitled "Innovative surface, tunnel, and in-pit geophysical methods for mineral exploration and mine planning: case studies from the Bushveld Complex mines, South Africa"; **University of Stavanger, 06/24** by Ivan Gutierrez entitled "Contribution of Geosciences in the Study of Anthropogenic Activities in Different Temporal and Spatial Contexts"; **The Wits. Uni., 09/23**, by Moyagabo Kenneth Rapetsoa entitled "Innovative surface, tunnel, and in-pit geophysical methods for mineral exploration and mine planning: case studies from the Bushveld Complex mines, South Africa"; **National Technical University of Athens, 10/25 by** Katerina Polychronopoulou entitled "Passive seismic methods-bauxite exploration, Greece".

Project evaluator, scientific activities, and journal editor/reviewer (selection):

Project panelist/evaluator/rapporteur of: Research Council of Norway (RCN) incl. research centers; Swedish Foundation for Strategic Research (SSF); Independent Research Fund Denmark (DFF); Romanian National Research Council; South African National Research Foundation; Swiss National Science Foundation; MRIWA: Minerals Research Institute of Western Australia; **Academic positions:** TekNat, UU committee member (2021-present); Professor at the University of Texas-Austin (2021); **Editorial board member of**: Nature Scientific Reports (2014-present); Geophysical Prospecting (**Editor-in-Chief**, 2014-present, **deputy editor** since 2022); **Guest editor of:** Geophysics (2012), and Interpretation (2014-2015), Near Surface Geophysics (2022); **Deputy editor of:** Geophysical Prospecting (2022-present); **Guest editor of:** Discover (Nature series) Critical Raw Materials (collection, 2025-2026); **Scientific advisor of:** MERC (Metal Earth), Canada; SEG-GWB landslide project in Serbia; **Reviewer of:** over 30 high-profile journals and conferences.

International conferences (selection):

Local organizing committee of: SGA 2013, Uppsala-Sweden; Near Surface Geoscience 2017, Malmö-Sweden; **Convener of:** "Active seismic investigations of the Earth's crust" of EGU (since 2010); **Chairperson of:** "Rock Physics (2011), Near-surface Geophysics (2012) and Diffraction Modeling and Imaging (2014)" of EAGE, 3D/4D modeling (SGA2013), SEG-AGU Hydrogeophysics (SEG2013), Hard rock seismic imaging (EAGE2014, workshop organizer), ASEG hardrock seismics (2015), **organizer of** the SEG-GWB special session (SEG2015); Geophysics in Infrastructure Planning, Malmö-Sweden 2017; **member of technical program committee**

SEG2015, New Orleans; DDG/EAGE 2016 mineral exploration workshop, Münster-Germany; EAGE-NSG 2016: Barcelona-Spain; 2017: Malmö-Sweden; 2018: Porto-Portugal; 2019: Delft-Netherlands; Seismix 2018, Kraków-Poland, EAGE-Latin America (2021, 2022).

Lectures and presentations (selection):

Over 100 oral presentations e.g., (Rio de Janeiro 2012, **keynote**), PDAC2013 (Toronto, **invited**), EGU2014 (Vienna, **solicited**), iMAGINE2014 (Tromsø, **keynote**), ASEG2015 (Perth, **keynote**), Grundläggningsdagen 2015 (Stockholm, **invited**), Bergmekanikdagen 2015 (Stockholm, **speaker**), Landslides 2015 (Belgrade, **invited**), Deep mineral exploration 2016 (Münster, **invited**), Lunch seminar 2016 (NGI-Oslo, **invited**), Urban geophysics EAGE-NSG 2016 (Barcelona, **invited**), SGU-Christmas lunch 2016 (Uppsala, **invited**), Exploration17 (Toronto, **keynote and invited for the best of NSG-EAGE Barcelona 2016**), Geokolloquium 2018 (Freiberg, **invited**), Urban geophysics 2018 (Seoul-South Korea, **invited**), SAGA2019 (Durban, South Africa, **workshop & keynote**), EAGE Annual Meeting 2019 (London, **invited**), PDAC Cutting Edge Applications (2020, Toronto, **selected**), EAGE HAGI (2020, Thailand, **keynote**). Wits GeoTalk online (2020, **invited**), SEG-EU webinar (2020, **invited**), EMinars (2021, **invited**), ENGEO-Russia (2021, **keynote**), BGS2021 (2021, **invited**), SAGA (2022, **keynote**), EAGE (2022, **invited**), Energy and Mines (Québec, 2023, **keynote**), SEG Webinar (2023, **invited**), Future Mine and Mineral (2024, **invited**), PDAC-EU (2024, **invited**), Swedish Mining Innovation (2024, **invited**), Lithosphere symposium-Finland (**keynote**, 2024), Korean Society of Exploration Geophysicists-KSEG (**invited**, online 2024), Inge Lehmann Symposium-Denmark (**keynote**, 2025), Lofotseminaret-Norway (**keynote**, 2025), Exploration Day-Svemin (**keynote**, 2025); Geoscience 4CRMs-Delft (**invited**, 2026).

9. Outreach activities:

Outreach service and teaching:

Student chapter advisor since 2009; **advisor and fundraiser for the International Geoscience Student Conference** (IGSC2019)-**Uppsala**; over **100 oral public, scientific and popular-type presentations**; examples: Landslide prediction and prevention (Rio de Janeiro 2012, **keynote**); EGU2014 (Vienna, **solicited**); ASEG2015 (Perth, **keynote**); Landslides 2015 (Belgrade, **invited**); Urban geophysics EAGE-NSG 2016 (Barcelona, **invited**); Urban geophysics 2018 (Seoul-South Korea, **invited**); SAGA2019 (Durban, South Africa, **workshop & keynote**); Wits GeoTalk (2020, invited); SEG-EU webinar (2020, invited), organizer and mentor for several **Student Challenge Bowls**, **Geo-quiz** and TGIF-**Geochampionship, chair of the LinkedIn special interest community in mineral exploration geophysics**. **MOOC** courses on DAS and CRMs (L4P), **most popular** with +550 participants.

- **Seismic Soundoff**, In-depth conversations in applied geophysics. SEG podcast series. Episode 39 (click: Preventing natural hazards).
- **Geophysicists** and a world of challenging scales but also opportunities - (click: how we can save you!).

Outreach research:

- **Rio De Janeiro-Brazil** (2012) after the devastating sequences of landslides (December 2011) gave talks to the public, city planners, visited affected villages/regions and discussed with other experts nationally and internationally on possibilities how geophysics can help, technologies and preparedness.
- **Malehmir** et al. (2016). Near-surface geophysical characterization of **areas prone to natural hazards**: A review of the current and perspective on the future. Advances in Geophysics, 57, 51–146.
- Three days workshop and courses with students, city council, public, and disaster management team in **Seoul-South Korea** (2017) on how geophysics and new development works could help mitigate earthquake risks and preparedness.

Outreach creativity and career:

- Organizer of **school visits and bootcamps** for over 5 high schools (+350 students, watch an example) in conjunction with Smart Exploration activities. Organizer of several **rapid-fire and pitching student talks** and workshops.
- **Townhall meetings** with locals, retired miners and families in conjunction with field activities in the Ludvika mining area, **Sweden** (in person participation), **Kosovo** (coordinator) and **Finland** (in-person) promoting science and applied geophysics for societal challenges, improve life and jobs, social acceptance and environmental applications (see example .pdf report).
- SciFest-**Uppsala**, a booth member from Dept. of Earth Sciences, Uppsala University.
- **Documentary series in Neves-Corvo (Portugal)** for public-student outreach and science-tech promotion.
- Geoscientists Without Borders project on landslides including two fieldcamps (+50 young professionals from Germany, Poland, Norway and Sweden).

- Nation-wide Trust-GeoInfra project, developed two new instruments for urban geophysical applications that opened for possibilities to tackle societal challenges regarding water resources, raw materials, contaminated sites, tunnelling projects, fault imaging in over six European countries. Many popular science articles, newspaper reports on their outcome and why important for the society.

Service to society:

(vice)**Chair of EAGE Near-Surface Geoscience Division** (2017-2022); **EGU-seismology session chair** (2013-2015); **SEG-AGU collaboration committee** (2016-2018); **+50** sessions, workshops, conferences, and PhD school organizations. **Member of national investigation by SHK (2024-2025):** Quick-clay landslide in Stenungsund (Sweden).

10. Selected R&D projects (+350 MSEK):

Government Strategic Research SFO (2027-2031): Advanced Materials-HIER-UPP; **SSF (Swedish Foundation for Strategic Research)** (2026): Grant writing; **Swedish Energy Agency** (2025-2027): NAVIS: Integrated surface and downhole seismic arrays. **SGU** (2025-2028): layered- and tuned-shaped Ni-Cu-PGE endowed mafic intrusions, central Sweden. **NTUA-PPCR** (2024): Geothermal site characterization-Lesvos (Greece). **SHK-The Swedish Accident Investigation Authority** (2024): Site investigation of the Stenungsund quick-clay landslide (Sweden). **SSF (Swedish Foundation for Strategic Research)** (2024-2029): Smart Exploration Research Centre; **GEUS** (2022-2025)**:** Stenlille, Havnsø, Gassum, Rødby and Thorning seismic studies (pioneering and upscaling +700 km of high-resolution reflection data for CCS applications in Denmark); **ERA-MIN3 FUTURE (**2022-2024): DAS and UAV platform exploration techniques; **Swedish Geotechnical Institute (SGI)** (2021-2022): Ultra-high-resolution imaging of quick clays; **South Korean partners** (2020-2022): Urban geophysics in megacities (Seoul); **H2020 Smart Exploration** (2017-2020): New sensitive exploration technologies; **EIT-KIC RM up-scaling SIT4ME** (2018-2020), Combined active and passive seismics; **Tyréns & Trafikverket** (2017): High-resolution seismic studies of a contaminated site, Varberg, Sweden; **Swedish Research Council (VR)** (2016-2019): Full crustal-scale seismic structures of central Sweden; **FQM** (2016), Kevitsa 3D seismic tomography for mine planning; **Skanska** (2015-2016): Geological site characterization for heat storage, Skåne. **NGI** (2015): High-resolution seismics in Oslo-underground infrastructure. **ERA-MIN 1: Vinnova, SGU, Tekes, NIO & Yara** (2015-2017): StartGeoDelineation, Sweden-Finland. **SKB** (2014)*:* Geophysical studies of the Bollnäs prospective post-glacial fault-Sweden; **GTK & Uni. of Turku** (2014): 2D-3C seismic studies of deep aquifers and Esker structures-Finland; **Yara** (2014): Combined landstreamer and wireless seismic survey in the Siilinjärvi open-pit mine-Finland; **Tyréns** (2014): Refraction/reflection seismics for a planned underground tunnel, Varberg-Sweden; **Kristianstad municipality** (2014): Seismic studies of a contaminated site in Kristianstad-Sweden; **FQM** (2013): Kansanshi mine 2D seismics-Zambia; **Formas, BeFo, SBUF, Skanska, Boliden, FQM, Trafikverket & NGI** (2013-2016): Multicomponent seismic and EM methods, several projects/contributions (http://trust-geoinfra.se); **SIDA & Meeting Points Mining** (2012-2013): Petrophysics, South Africa-Sweden; **Society of Exploration Geophysicists (SEG-GWB)** (2011-2013): Quick-clay landslides, Sweden; **Swedish Research Council (VR)** 2010-2012: Alnö complex, Sweden; **SGU** (2010-2012): Dannemora mining area-Bergslagen, Sweden; **FQM** (2010-2011): 3D seismic imaging, Kevitsa, Finland.

11. Patents, Prototypes and Methods

- Trademark (Swedish Intellectual Property Office, PRV, 2024, 2024-03782): "**Locktid**".
- Trademark (Swedish Intellectual Property Office, PRV, 2024, 2024-03781): "**SeisSolo**".
- Patent (pending, 2023), entitled "**A new seismic landstreamer design and method**".
- Trademark (Swedish Intellectual Property Office, PRV, 2023, 625506): "**SeisMove**".
- Patent (Swedish Intellectual Property Office, PRV, granted on 17-11-2020), SE 543 288 C2 entitled "**Mining and mineral exploration system and methods for performing time-accurate measurements in a mine**".
- A state-of-the art **MEMS-based 3C seismic landstreamer** (2014) for urban underground infrastructure planning and high-resolution imaging projects (used +20 projects in Sweden, Portugal, Denmark, Finland, Norway, South Korea).
- **UAV-based magnetic** survey tests for mineral exploration (see SEG-TLE issue of July 2017).
- **Downhole** physical property logging, plotting and synthetic scripts.
- For **slimholes modular-based geophysical system** co-developed with BitSim (2019).
- Various **seismic synthetic** modeling scripts.

- **Nordic Geophysics** (a **spin-off** consulting from **Smart Exploration** founded in 2018). Example consultancy services to C&H, SKB, Geopartner, BHP, Viscaria, Anglo, De Beers and GEUS.

12. List of peer-reviewed journal publications

http://scholar.google.com/citations?user=lb1LlH4AAAAJ&hl=en
http://katalog.uu.se/empInfo/?languageId=1&id=N3-1060
http://orcid.org/0000-0003-1241-2988

[175] Putnaite, J., and **Malehmir, A.,** 2026. Seismic depth imaging using combined dual-element data sets for geological carbon storage investigations in Thorning, Denmark. *Geophysics*, **91**, B243–B258.

[174] Koufopoulou, A., **Malehmir, A.,** Högdahl, K., Markovic, M., Snyder, D.B., Lahtinen, R., and Luth, S., 2026. Opposing upper-mantle reflectivity beneath the northern Fennoscandian Shield: A possible record of multiple Paleoproterozoic subduction systems. *Precambrian Research*, **446**, 108274.

[173] Markovic, M., **Malehmir, A.**, Koufopoulou, A., Paletko, G., and Hamerslag, R., 2026. Relative gravity surveying using seismic 3C MEMS-based accelerometers. *IEEE Geoscience and Remote Sensing Letters,* **23**, 7508405.

[172] Ding, Y., Ho, H., **Malehmir, A.,** and Courbis, R., 2026. A hybrid seismic imaging condition for enhancing target delineation in mineral exploration. *IEEE Geoscience and Remote Sensing Letters,* **23**, 7508205.

[171] Stender, L., **Malehmir, A.,** and Papadopoulou, M., and Hamerslag, R., 2026. Combined fibre-optic sensing and nodal recorders for active-source seismic characterization of mine tailings. *Discover Applied Sciences*, **8**, 914.

[170] **Malehmir, A.**, Markovic, M., Hamerslag, R., and Högnäs, J., 2026. Building confidence at depth: Over a decade of innovation in deep mineral targeting. *First Break*, **44**, 25–32.

[169] Kucinskaite, K., Westgate, M., **Malehmir, A.,** 2026. Unveiling subtle structures with attribute analysis at a potential geological carbon storage site in Denmark. *International Journal of Greenhouse Gas Control,* **155**, 104704.

[168] Konstantinidis, E., Apostolopoulos, G., **Malehmir, A.,** Papadopoulou, M., Markovic, M., Vakalas, I., Kranis, H., and Skourtsos, E., 2026. Reflection seismic surveying at the volcanic geothermal system of Petra (Lesvos Island, Greece). *Geothermics*, **139**, 103690.

[167] Zappalá, S., Westgate, M., and **Malehmir, A.,** 2026. Automated three-dimensional reflection traveltime modelling to extract 3D dipping layer geometries. *Geophysical Prospecting*, **74**, e70165.

[166] Wilczynski, Z., Kaslilar, A., **Malehmir, A.**, Juhlin, C., Markovic, M., Gyger, L., and Manzi, M., 2026. Performance of untrenched surface-DAS in near-surface seismic exploration: a comparison with conventional sensors. *Geophysical Journal International,* **245**, ggag082.

[165] Konstantinidis, E., Westgate, M., **Malehmir, A.,** Gregersen, U., and Keiding, M., 2026. Traveltime tomography to unravel the Chalk Group structures at the Gassum CCS site, Denmark. *Geophysical Prospecting*, 74, e70150. https://doi.org/10.1111/1365-2478.70150

[164] Yang, L., **Malehmir, A.,** and Markovic, M., 2026. Unsupervised physics-guided deconvolution for high-resolution hardrock seismic imaging. *Geophysical Prospecting*, e70123. https://doi.org/10.1111/1365-2478.70123

[163] Gyger, L., **Malehmir, A.**, Manzi, M., Valishin, O., and Hamerslag, R., 2025. Surface distributed acoustic sensing for mineral exploration. Scientific Reports, https://doi.org/10.1038/s41598-025-29964-6

[162] Markovic, M., **Malehmir, A.,** Manzi, M., and Hamerslag, R., 2025. Feasibility of multicomponent reflection seismic imaging for direct targeting of metallic mineral deposits. *Geophysics,* **90**, B357–B366.

[161] Bräunig, L., Buske, S., Kramer, R., **Malehmir, A.,** Juhlin, C., and Marsden, P., 2025. Multiscale borehole seismic imaging for mineral exploration in the Blötberget mining area (Central Sweden, Ludvika). *Geophysical Prospecting,* e70061.

[160] Ding, Y., and **Malehmir, A.,** 2025. Controlled-illumination reflection imaging of massive sulphide deposits utilizing a tunnel-to-surface acquisition setup at the Neves-Corvo mining site, Portugal. *Geophysical Journal International,* **242**, 1–15.

[159] Westgate, M., Manzi, M.S.D., **Malehmir, A.,** James, I., and Schiffer, C., 2025. Crustal-scale structures and tectonic domains of the Kheis Tectonic Province in South Africa from multimethod seismic analysis. *Solid Earth,* **16***,* 1097–1119.

[158] Zappalá, S., **Malehmir, A.,** Kranis, H., Apostolopoulos, G., and Papadopoulou, M., 2025. Reflection seismic imaging across the Thinia valley (Greece). *Solid Earth,* **16***,* 409–423.

[157] Gregersen, U., Fyhn, M. B. W., Keiding, M., Abramovitz, T., Bjerager, M., Vosgerau, H., Smit, F. W. H., Funck, T., Mathiesen, A., Mørk, F., Schovsbo, N. H., Petersen, H. I., Nielsen, L. H., Dybkjær, K., Lauridsen, B. W., Sheldon, E., Olsen, M. L., Pedersen, G. K., Nielsen, C. M., Erik S Rasmussen, **Malehmir, A.,** Papadopoulou, M., Zappalá, S., Markovic, M., Westgate, M., Putnaite, J., Konstantinidis, E., Kucinskaite, K., Erhardt, A., Nørmark, E., 2025. Seismic investigations of eight geological structures for potential storage of CO2 in Denmark: an introduction. *GEUS Bulletin*, 60. https://doi.org/10.34194/299dt488

[156] Kucinskaite, K., Papadopoulou, M., Westgate, M., and **Malehmir, A.,** 2025. Near-surface characterization of the Havnsø geological carbon storage site (Denmark) using combined seismic reflection imaging and traveltime tomography. *Geoenergy*, **3**, 1–10. https://doi.org/10.1144/geoenergy2024-038

[155] Yang, L., **Malehmir, A.,** and Markovic, M., 2025. Enhanced hardrock seismic imaging through multi-scale information-guided unsupervised learning. *Journal of Geophysical Research - Machine Learning and Computation*, **2**, e2025JH000627.

[154] Putnaite, J., **Malehmir, A.,** Bjerager, M., Abramovitz, T., Vosgerau, H., and Keiding, M., 2025. The role of a salt pillow in deep saline aquifer integrity and shallow groundwater resources. *Scientific Reports*, **15**, 15074.

[153] Zappalá, S., Papadopoulou, M., and **Malehmir, A.,** 2025. Shear-wave tailored moveout corrections to improve multicomponent reflection seismic imaging. *Near Surface Geophysics*, **23**, 252–266.

[152] **Malehmir, A.,** Markovic, M., Abramovitz, T., and Gregersen, U., 2025. Geological carbon storage site characterization using a dual element seismic recording technology. *Scientific Reports*, 15, 12937.

[151] Rapetsoa, M.K., Manzi, M.S.D., Sihoyiya, M., **Malehmir, A.,** James, I., Socco, L.V., Lepine, J., Colombero, C., Valeshin, O., Durrheim, R.J., 2025. Advanced seismic acquisition techniques in South African mines: Insights from the FUTURE project. *Journal of the Southern African Institute of Mining and Metallurgy*, **125**, 25–32.

[150] Westgate, M., Kucinskaite, K., Konstantinidis, E., **Malehmir, A.,** Papadopoulou, M., Gregersen, U., Keiding, M., and Bjerager, M., 2025. Seismic imaging of Halokinetic sequences and structures with high-resolution, dual-element acquisition, and processing: applications to the Gassum structure in eastern Jutland, Denmark. *JGR-Earth and Space Science*, **12**, e2024EA004014.

[149] Gyger, L., **Malehmir, A.**, Manzi, M., Vivin, L., Lépine, J., Kaslilar, A., Valishin, O., Marsden, P., and Hamerslag, R., 2025. Broadband seismic data acquisition and processing of iron-oxide deposits in Blötberget, Sweden. *Geophysical Prospecting,* **73**, 80–95.

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Contributions to scientific conferences:

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